SAFETY DATA SHEET

Revision: 19. 05. 2023 Version: 22.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking.

1.1 Product identifier: **COPPER SULPHATE PENTAHYDRATE**
Synonyms: copper (II) sulphate (VI) pentahydrate;
copper sulphate pentahydrate (REACH);
copper (2+) sulfate pentahydrate (IUPAC)
Index number: 029-004-00-0
EC number: 616-477-9/ 231-847-6 (anhydrous)
REACH registration number: 01-2119520566-40-XXXX
CAS number: 7758-99-8/ 7758-98-7 (anhydrous)
1.2: Relevant identified uses of the substance or mixture and uses advised against:
1.2.1 Identified uses:
Exposure scenario 1: production of catalysts using copper sulphate;
Exposure scenario 2: use of catalytic products containing copper sulphate during production;
Exposure scenario 3: industrial general use of copper sulphate during the manufacturing process;
Exposure scenario 4: general industry use of copper sulphate;
Exposure scenario 5: typical use of copper sulphate during consumer use;
Exposure scenario 6: wide dispersive applications [environmental vents only] with typical use of copper sulphate in processes.
1.2.2 Uses advised against: restrictions in use: see section 15.
1.3 Details of the supplier of the safety data sheet:

Centro-chem sp. z o.o. sp.k.
Turka 141b, 20-258 Lublin 62,
Tel. +48 81 756 55 20
Fax: +48 81 756 55 10

E-mail address for a competent person responsible for the safety data sheet:

monika.cebula@centro-chem.pl

1.4 Emergency telephone number:
112
Belgium +32022649636
Croatia +38514686910
Denmark +4572544000
Estonia +3727943500
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Latvia +37167032600
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Malta +35623952000
Netherlands +31887558561
Norway +4573580500
Portugal +351213303271
Romania: +40213183606

Spain +34917689800
Sweden +46104566750

SECTION 2. Hazards identification.

2.1 Classification of the substance or mixture:
Copper sulfate pentahydrate containing > 0,3% of nickel sulfate (impurity).

Acute Tox. 4	H302: Harmful if swallowed.
Skin Sens.1	H317: May cause an allergic skin reaction.
Eye Dam.1	H318: Causes serious eye damage.
Carc.1A	H350i: May cause cancer by inhalation.
Repr.1B	H360D: May damage the unborn child.
STOT Rep.Exp.2	H373: May cause damage to organs < lungs> through prolonged or repeated exposure <inhalation>.
Aquatic Acute 1	H400: Very toxic to aquatic life.
Aquatic Chronic 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements:
Hazard pictogram(s):

Signal word:
Danger

Hazard statement(s):
H302: Harmful if swallowed.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H350i: May cause cancer by inhalation.
H360D: May damage the unborn child.
H373: May cause damage to organs < lungs> through prolonged or repeated exposure <inhalation>.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statement(s):
P260: Do not breathe dust.

P273: Avoid release to the environment.
P301+P312: IF SWALLOWED: Call a POISON CENTRE if you feel unwell.
P302+P352: IF ON SKIN: Wash with plenty of water.
P305 + P351+ P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501: Dispose of container to local legislation.

Restricted to professional users.

2.3 Other hazards:
PBT/vPvB:
Substance:
copper sulphate pentahydrate (CAS number: 7758-99-8):
according to REACH Regulation 1907/2006 Annex XIII PBT/vPvB assessment does not apply to inorganic substances.

Impurity: nickel sulphate (CAS number: 7786-81-4):
according to REACH Regulation 1907/2006 Annex XIII PBT/vPvB assessment does not apply to inorganic substances.

Endocrine disrupting properties*:* the product does not contain substances above the legally permissible limits contained in the list drawn up in accordance with Art. 59 sec. 1 of Regulation (EC) No. 1907/2006 for having endocrine disrupting properties or which would be identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3. Composition/information on ingredients.

This product is a substance.
3.1 Substance:

Substance: copper sulphate pentahydrate
Mass fraction: min. 85,0 %
CAS number: 7758-99-8/ 7758-98-7 (anhydrous)
EC number: 616-477-9/ 231-847-6 (anhydrous)
Index number: 029-004-00-0
REACH registration number: 01-2119520566-40-XXXX
Chemical formula: $CuSO_4 \cdot 5H_2O$
Molar mass: 249,68 g/mol; 159,61 g/mol (anhydrous)
Classification:

Acute Tox. 4	H302: Harmful if swallowed.
Eye Dam.1	H318: Causes serious eye damage.
Aquatic Acute 1	H400: Very toxic to aquatic life.
Aquatic Chronic 1	H410: Very toxic to aquatic life with long lasting effects.

Acute toxicity (ATE) - oral:-

Acute toxicity (ATE) - inhalation: -
Acute toxicity (ATE) - dermal: -

M-factor (acute hazard): -
M-factor (chronic risk): -

Impurity: nickel sulphate
Mass fraction: 0,3 – 0,5 %
CAS number: 7786-81-4
EC number: 232-104-9
Index number: 028-009-00-5
REACH registration number: 01-2119520566-40-XXXX
Chemical formula: $NiSO_4$
Molar mass: 154,76 g/mol

Classification:

Acute Tox. 4	H302: Harmful if swallowed.
Skin Irrit. 2	H315: Causes skin irritation.
Skin Sens. 1	H317: May cause an allergic skin reaction.
Acute Tox. 4	H332: Harmful if inhaled.
Resp. Sens. 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Muta. 2	H341: Suspected of causing genetic defects.
Carc. 1A	H350i: May cause cancer by inhalation.
Repr. 1B	H360D: May damage the unborn child.
STOT Rep. Exp. 1	H372: Causes damage to organs <respiratory tract> through prolonged or repeated exposure < inhalation>.
Aquatic Acute 1	H400: Very toxic to aquatic life.
Aquatic Chronic 1	H410: Very toxic to aquatic life with long lasting effects.

Specific concentration limits:
1. Concentration range (%): C>= 1
Hazard categories: STOT RE 1; H372
2. Concentration range (%): >= 0,1 % ≤ C < 1%
Hazard categories: STOT RE 2; H373
3. Concentration range (%): C>20%
Hazard categories: Skin Irrit. 2; H315

4. Concentration range (%): C > 0,01
Hazard categories: Skin Sens. 1; H317

Acute toxicity (ATE) - oral:-
Acute toxicity (ATE) - inhalation: -
Acute toxicity (ATE) - dermal: -

M-factor (acute hazard): 1
M-factor (chronic risk): 1

3.2 Mixture: not applicable.

SECTION 4. First aid measures.

4.1 Description of first aid measures:

a) Inhalation: remove victim immediately from source of exposure. Provide rest and warm. Give oxygen if breathing is difficult. Contact your doctor.

b) Contact with the eyes: immediately flush the eyes with plenty of cool, preferably running water, for about 15 minutes. Remove contact lenses, if present and easy to do, continue rinsing. Avoid a strong stream of water due to the risk of mechanical damage to the cornea. Consult an ophthalmologist immediately.

c) Skin contact: remove contaminated clothing and shoes. Wash skin with plenty of water, preferably running water. Consult a dermatologist if irritation occurs.

d) Ingestion: rinse mouth with water. Do not induce vomiting. Do not give anything by mouth to an unconscious person. Consult a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed:

Eye contact: redness, irritation, eye damage;

Skin contact: redness, irritation;

Inhalation: coughing, difficulty breathing, shortness of breath;

Ingestion: abdominal pain (abdominal colic) may occur, most often preceded by a few days of constipation and an increase in blood pressure. Acute poisoning may result in damage to the liver, kidneys and peripheral and central nervous system. Chronic poisoning may result in anemia, anemia (decrease in hemoglobin content in the blood), changes in the peripheral nerves, mainly in the limbs, changes in the central nervous system.

4.3 Indication of any immediate medical attention and special treatment needed:

symptomatic treatment. The decision on the procedure is made by the doctor after a thorough assessment of the patient's condition.

SECTION 5. Firefighting measures.

5.1 Extinguishing media:

Suitable extinguishing media: carbon dioxide (CO_2), extinguishing powder, extinguishing floam.
Unsuitable extinguishing media: strong water jet.

5.2 Special hazards arising from the substance or mixture:

in high temperature sulphur dioxide and/or sulphur trioxide as well as copper oxides or carbon oxide and carbon dioxide may be formed.

5.3 Advice for firefighters:

wear protective clothing and footwear resistant to high temperatures. Wear self-
contained breathing apparatus. Containers exposed to high temperature should be cooled with water from a safe distance and if possible removed

from the endangered area. Do not allow extinguishing water to enter the environment.

SECTION 6. Accidental release measures.

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel:

only qualified personnel equipped with appropriate protective equipment may intervene. Remove bystanders from the hazard area. Avoid creating and inhaling dust. Avoid contact of the substance with skin and eyes. Ensure proper ventilation. Depending on the e degree of danger, inform the local residents about the need to evacuate.

6.1.2 For emergency responders:

do not operate without proper protective equipment.
More information can be found in section 8.

6.2 Environmental precautions:

in the event of a failure, do not allow discharge to the environment. Prevent the product from entering sewers. In case of spillage, collect the product into appropriate, labeled containers for further disposal. In case of release of large quantities of the product or contamination of the environment, notify the relevant authorities and chemical rescue services.

6.3 Methods and material for containment and cleaning up:

eliminate the leak (seal the damaged packaging and place it in a replacement packaging). Collect the spilled substance into a container and dispose of it as hazardous waste.

6.4 Reference to other sections: For personal protection: see section 8.
In the case of waste management: see section 13

SECTION 7. Handling and storage.

7.1 Precautions for safe handling:

7.1.1. Recommendations:

a) wear protective clothing in accordance with section 8 of this safety data sheet. It is recommended that eye washers and showers be installed close to the workstation. Avoid release to the environment.
b) prevent use where there is a possibility of contact with non-compliant substances or mixtures;
c) pay attention to activities and conditions that change the properties of the substance and create new hazards, and introduce appropriate countermeasures.
d) limit the release of the substance to the environment, for example by preventing releases or entering drains.

7.1.2. Recommendations for general occupational hygiene:

a) do not eat, drink or smoke in the workplace;
b) wash your hands after use;
c) remove contaminated clothing and protective equipment before entering eating areas;
d) do not breathe dust.

7.2 Conditions for safe storage, including any incompatibilities:

store in original packaging, in a dry, cool, well-ventilated storage place, equipped with electrical and ventilation system.

Recommended storage temperature: +5°C ~+40°C.

Incompatible substances: strong acids, aluminum, acetylene, nitromethane, hydrazine, hydroxylamine, solutions of copper sulfate with magnesium.

7.3 Specific end use(s): see section 1.2.

SECTION 8. Exposure controls/personal protection.

8.1 Control parameters:

Substance: copper sulphate pentahydrate (CAS number: 7758-99-8):

Poland: NDS: 0,2 mg/m^3 (Copper [7440-50-8] and it's inorganic compounds -as Cu)
NDSCh: undetermined
NDSP: undetermined

Rozporządzenie Ministra Rodziny, Pracy i Polityki Społecznej z dnia 12 czerwca 2018 r. w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy.

EU: Long-term Exposure Limit (LTEL) Values: undetermined
Short-term Exposure Limit (STEL) Values: undetermined

COMMISSION DIRECTIVE 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. OELs - Occupational Exposure Limits - 5th list

Impurity: nickel sulphate (CAS number: 7786-81-4):

Poland: NDS: 0,25 mg/m^3 (Nickel [7440-02-0] and its compounds, except nickel tetracarbonyl- as Ni)
NDSCh: undetermined
NDSP: undetermined

Rozporządzenie Ministra Rodziny, Pracy i Polityki Społecznej z dnia 12 czerwca 2018 r. w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy.

EU: Long-term Exposure Limit (LTEL) Values: undetermined
Short-term Exposure Limit (STEL) Values: undetermined

COMMISSION DIRECTIVE 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. OELs - Occupational Exposure Limits - 5th list.

Substance: copper sulphate pentahydrate (CAS number: 7758-99-8):
DNEL values:
DNEL (workers):
Long-term exposure - systemic effects, inhalation: 1 mg/m³
Long-term exposure - local effects, inhalation: 1 mg/m³
Long-term exposure - systemic effects, dermal: 137 mg/kg bodyweight/day

DNEL (general population):
Long-term exposure- systemic effects, oral: 0,041 mg/kg bodyweight/day
Aqute exposure- systemic effects, oral: 0,082 mg/kg bodyweight/day

PNEC values:

PNEC (freshwater): 7,8 µg/l
PNEC (marine water): 5,2 µg/l
PNEC sediment (freshwater): 87 mg/kg dw
PNEC sediment (marine water): 676 mg/kg dw
PNEC soil: 65 mg/kg mg/kg dw
PNEC sewage treatment plant: 230 µg/l

Impurity: nickel sulphate (Nr CAS: 7786-81-4):
DNEL values:
DNEL (workers):
Long-term exposure - systemic effects, inhalation: 0,05 mg/m³
Acute exposure - systemic effects, inhalation: 104 mg/m³
Long-term exposure - local effects, inhalation: 0,05 mg/m³
Acute exposure - local effects, inhalation: 1,6 mg/m³
Long-term exposure - local effects, dermal: 0,44 ug/cm^2

PNEC values:
PNEC (freshwater): 7,1 µg/l
PNEC (marine water): 8,6 µg/l
PNEC sediment (freshwater): 109 mg/kg dwt
PNEC sediment (marine water): 109 mg/kg dwt
PNEC soil: 29,9 mg/kg mg/kg dwt
PNEC sewage treatment plant: 0,33 µg/l
PNEC secondary poisoning: 0,12 mg/kg dwt food

8.2 Exposure controls:
8.2.1 Appropriate engineering controls:
use local exhaust ventilation systems if necessary. It is recommended that eye washers and showers be installed close to the workstation.
8.2.2. Individual protection measures, such as personal protective equipment
a) Eyes protection: wear safety goggles acc. to EN166.
b) Hands and skin protection:
-hands protection: coated protective gloves (acc. to EN 374):
Recommended gloves material: nitrile rubber
Thickness: >0,11mm,
Breakthrough time: 480 min
-other: chemical-resistant protective clothing and footwear.
c) Respiratory protection: necessary in case of dusting - anti-dust half mask of class P-3.
d) Thermal hazard: no data available
8.2.3. Environmental exposure controls: do not release the product into the environment.
Environmental exposure must be prevented by technical and organizational measures.

SECTION 9. Physical and chemical properties.

9.1 Information on basic physical and chemical properties:
a) Physical state: crystalline solid
b) Colour: green-blue to blue (dark inclusions allowed)
c) Odour: odourless
d) Melting point/freezing point: 110^{o}C
e) Boiling point or initial boiling point and boiling range: 150^{o}C

f) Flammability: not classified
g) Lower and upper explosion limit:
Upper: do not apply to solids
Lower: do not apply to solids
h) Flash point: do not apply to solids
i) Auto-ignition temperature: only applies to gases and liquids
j) Decomposition temperature: no data available
k) pH: 4,0 (50g/l H_2O, 20°C)
l) Kinematic viscosity: applies to liquids only
m) Solubility: water: 423 g/l (20°C); 2023g/l (100°C); slighty soluble in alcohol, freely soluble in glycerin.
n) Partition coefficient n-octanol/water (log value): Log Kow (Log Pow):
Substance: copper sulphate pentahydrate
CAS: 7758-99-8
not applicable (inorganic)
Impurity: nickel sulphate
CAS: 7786-81-4
not applicable (inorganic)
o) Vapour pressure: no data available
p) Density and/or relative density: ~2,284g/cm^3 (20ºC)
q) Relative vapour density: only applies to gases and liquids
r) Particle characteristics: not applicable

9.2 Other information:

9.2.1 Information with regard to physical hazard classes: -

9.2.2 *Other safety characteristics:*

a) Explosive properties: no explosive properties
b) Oxidizing characteristics: no oxidizing properties

SECTION 10. Stability and reactivity.

10.1 Reactivity: in normal conditions of use and storage product is no reactive.

10.2 Chemical stability: the product is stable in normal conditions of use and storage.

10.3 Possibility of hazardous reactions: reacts with hydroxylamine. Copper (II) sulfate (VI) solution are acidic and react with magnesium to produce hydrogen. Violent reaction with strong oxidants.

10.4 Conditions to avoid: sources of heat (high temperature).

10.5 Incompatible materials: strong acids, aluminum, acetylene, nitromethane, hydrazine, hydroxylamine, solutions of copper sulfate with magnesium.

10.6 Hazardous decomposition products: under normal conditions of storage and use, hazardous decomposition products should not be produced.
In high temperature, sulphur dioxide and/or sulphur trioxide as well as copper oxides or carbon oxide/dioxide may be formed.

SECTION 11. Toxicological information.

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:

Copper sulfate pentahydrate containing > 0,3% of nickel sulfate (impurity).

a) Acute toxicity:

Oral	Acute Tox. 4: H302: Harmful if swallowed. LD_{50}, rat: 482 mg/kg b.w.
Inhalation	based on available data, the classification criteria are not met.
Dermal	based on available data, the classification criteria are not met.

LD_{50}, rat: >2000 mg/kg b.w.

b) Skin corrosion/irritation: based on available data, the classification criteria are not met.

c) Serious eye damage/irritation: Eye Dam. 1: H318: Causes serious eye damage.

d) Respiratory or skin sensitisation:

Respiratory sensitization: based on available data, the classification criteria are not met.

Skin sensitization: Skin. Sens. 1: H317: May cause an allergic skin reaction.

e) Germ cell mutagenicity: based on available data, the classification criteria are not met.

f) Carcinogenicity: Carc. 1A: H350i: May cause cancer by inhalation.

g) Reproductive toxicity: Repr. 1B: H360D: May damage the unborn child.

h) STOT-single exposure: based on available data, the classification criteria are not met.

i) STOT-repeated exposure: STOT RE 2: H373: May cause damage to organs < lungs> through prolonged or repeated exposure <inhalation>.

j) Aspiration hazard: based on available data, the classification criteria are not met.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties:

no adverse health effects caused by endocrine disrupting properties.

11.2.2 Other information:

Most important symptoms and effects, both acute and delayed:

Eye contact: redness, irritation, eye damage;

Skin contact: redness, irritation;

Inhalation: coughing, difficulty breathing, shortness of breath;

Ingestion: abdominal pain (abdominal colic) may occur, most often preceded by a few days of constipation and an increase in blood pressure. Acute poisoning may result in damage to the liver, kidneys and peripheral and central nervous system. Chronic poisoning may result in anemia, anemia (decrease in hemoglobin content in the blood), changes in the peripheral nerves, mainly in the limbs, changes in the central nervous system.

SECTION 12. Ecological information.

Copper sulfate pentahydrate containing > 0,3% of nickel sulfate (impurity).

12.1 Toxicity:

Hazardous to the aquatic environment (acute / short-term): Aquatic Acute 1: H400: Very toxic to aquatic life.

Hazardous to the aquatic environment (long-term): Aquatic Chronic 1: H410: Very toxic to aquatic life with long lasting effects.

Hazardous to the ozone layer: based on available data, the classification criteria are not met.

Substance: copper sulphate pentahydrate (CAS: 7758-99-8):

Fish: LC_{50} *Cyprinus carpio:* 0,35 mg/l; 96h

LC_{50} *Oncorhynchus mykiss:* 0,11 mg/l; 96h

Aquatic invertebrates: EC_{50} *Daphnia magna:* 0,1mg/l; 48h

Algae / aquatic plants: LC_{50} *Escherichia coli:* 0,08 mg/l

M-factor (acute hazard): -

M-factor (chronic risk): -

Impurity: nickel sulphate (CAS: 7786-81-4):

Fish: LC_{50} *Oncorhynchus mykiss*: 15,3 mg/l; 96h

NOEC *Pimephales promelas*: 108,9 μg/l; 30d

Aquatic invertebrates: EC_{50} *Ceriodaphnia dubia*: 200 mg/l; 48 h
NOEC *Daphnia magna*: 90 µg/l; 21d
Microorganisms: *Pseudokirchneriella subcapitata*: 81,5 - 148 µl/l; 72h

M-factor (acute hazard): 1
M-factor (chronic risk): 1

12.2 Persistence and degradability:
Biodegradation: Scientifically unjustified.
The substance is inorganic.
12.3 Bioaccumulative potential:
Substance: Copper sulphate pentahydrate (CAS number: 7758-99-8):
not applicable (inorganic).
Impurity: nickel sulphate (CAS number: 7786-81-4):
not applicable (inorganic).
12.4 Mobility in soil: high - due to the good solubility of the product in water.
12.5 Results of PBT and vPvB assessment:
Substance: copper sulphate pentahydrate (CAS number: 7758-99-8):
according to REACH Regulation 1907/2006 Annex XIII PBT/vPvB assessment does not apply to inorganic substances.
Impurity: nickel sulphate (CAS number: 7786-81-4):
according to REACH Regulation 1907/2006 Annex XIII PBT/vPvB assessment does not apply to inorganic substances.
12.6 Endocrine disrupting properties: no adverse environmental effects caused by endocrine disrupting properties.
12.7 Other adverse effects: no further data.

SECTION 13. Disposal considerations.

13.1 Waste treatment methods:
Substance: the product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or canals with the product or used packaging.
Hand over to a licensed waste disposal facility.
Used packaging: empty of remaining remains.
Dispose as unused product.
Do not reuse empty containers.
Hand over to a licensed waste disposal facility.
Waste code, product: specify at the place of use.
Waste code, packaging: specify at the place of use.

DIRECTIVE 2008/98/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 November 2008 on waste and repealing certain Directives.

SECTION 14. Transport information.

14.1. UN number or ID number: 3077
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
14.3. Transport hazard class(es): 9
14.4. Packing group: III
14.5. Environmental hazards: Yes

14.6. Special precautions for user:
ADR
Classification code: M7
Special provisions: 274, 335, 375, 601
Limited quantities: 5 kg
Excepted quantities: E1
Packing instructions: P002, IBC08, LP02, R001
Mixed packing provisions: MP10
Portable tank and bulk container instructions: T1, BK1, BK2, BK3
Portable tank and bulk container special provisions: TP33
Tank code: SGAV, LGBV
Tank special provisions: -
Vehicle for tank carriage: AT
Transport category: 3(-)
Special provisions for carriage - Packages: V13
Special provisions for carriage - Loading, unloading and handling: CV13
Hazard identification number (Kemler No.) : 90
14.7. Maritime transport in bulk according to IMO instruments: -

SECTION 15. Regulatory information.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture: REACH:

a) *Annex XIV - List of substances subject to authorization*

Substances of very high concern: none of the components are in the list.

b) *Annex XVII Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles:* **no.: 28, 30, 75**

Restricted to professional users.

REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

REGULATION (EC) No 767/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 July 2009 on the placing on the market and use of feed, amending European Parliament and Council Regulation (EC) No 1831/2003 and repealing Council Directive 79/373/EEC, Commission Directive 80/511/EEC, Council Directives 82/471/EEC, 83/228/EEC, 93/74/EEC, 93/113/EC and 96/25/EC and Commission Decision 2004/217/EC

Regulation (EC) No 2003/2003 of the European Parliament and of the Council of 13 October 2003 relating to fertilisers.

Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety.

15.2 Chemical safety assessment: chemical safety assessment has been carried out.

SECTION 16. Other information.

a) Indication of changes: general review.

b) Key abbreviations and acronyms used in the safety data sheet:
ACGIH: **A**merican **C**onference of **G**overnmental **I**ndustrial **H**ygienists
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR: fr. L' Accord européen relatif au transport international des marchandises Dangereuses par Route
B: Bioaccumulative
CAS number: A numeric designation assigned to a chemical by the US Chemical Abstracts Service (CAS) to identify the substance.
CSR: Chemical **S**afety **R**eport
CSA: Chemical **S**afety **A**ssessment
DNEL: Derived **N**o **E**ffect **L**evel
EC Number: The number assigned to a chemical in the European Inventory of Existing Commercial Substances
IATA: International **A**ir **T**ransport **A**ssociation
IBC: International **B**ulk Chemical **C**ode
ICAO: International **C**ivil **A**viation **O**rganization
IMGD: International **M**aritime **D**angerous **G**oods code
LC50: Lethal **C**oncentration 50 (concentration in water with a 50% chance of causing death to aquatic organisms)
LD50: **L**ethal **D**ose 50-dose causing the death of 50% of the individuals of the test population after a certain period of time
LLNA: Local **L**ymph **N**ode **A**ssay
LTEL: Long **T**erm **E**xposure **L**imit
NDSP: maximum allowable ceiling concentration
NIOSH: National **I**nstitute of **O**ccupational **S**afety and **H**ealth
NOEC: the highest dose or concentration of a toxic substance at which no adverse effect is observed.
NOHSC: National **O**ccupational **H**ealth & **S**afety **C**ommission
OEL: Occupational **E**xposure **L**imits
OSHA: **O**ccupational **S**afety and **H**ealth **A**dministration
P: Persistent
PBT: persistent, **b**ioaccumulative and **t**oxic
PNEC: Predicted **N**o **E**ffect **C**oncentration
RID: Regulations concerning the **I**nternational carriage of **D**angerous goods by rail
SCOEL: Scientific **C**ommittee on **O**ccupational **E**xposure **L**imits
SDS: **S**afety **D**ata **S**heet
STEL: short-**t**erm **e**xposure **l**imits
STOT: specific **t**arget **o**rgan **t**oxicity
STP: **s**ewage **t**reatment **p**lant
TLV: **t**hreshold **l**imit **v**alue

TWA: **t**ime-**w**eighted **a**verage
vPvB: **v**ery **p**ersistent and **v**ery **b**ioaccumulative
c) Key literature references and sources for data: Suppliers safety data sheet.
https://echa.europa.eu/pl/registration-dossier/-/registered-dossier/15416/1/1
https://echa.europa.eu/pl/registration-dossier/-/registered-dossier/15304/1/1

c) Indication of which of the methods of evaluating information referred to in Article 9 of Regulation (EC) No 1272/2008 was used for the purpose of mixture classification: not applicable

d) List of relevant hazard statements and/or precautionary statements: written out in full under section 2.

e) Advice on any training appropriate for workers to ensure protection of human health and the environment: it is recommended to train workers to ensure the protection of human health and the environment. It is necessary for the people working with the product to read and understand this SDS. We recommend storing the SDS in a place with easy access to it for everyone who works with the product, and (if needed) for emergency services.

Disclaimer: the information contained in the SDS is to describe the product only from the point of safety requirements. Users of the product are responsible for creating the conditions for the safe use of the product and take responsibility for consequences resulting from improper use of this product. It is recommended to conduct training for health and safety, to ensure protection of human health and the environment.